

# Contents

1 Severin, Kenneth P. & Lipps, Jere H.: The weight-volume relationship of the test of *Alveolinella quoyi*: Implications for the taphonomy of large fusiform foraminifera

13 Xi-guang Zhang: Ontogeny of an Early Cambrian eodiscoid trilobite from Henan, China

31 Savazzi, Enrico: Burrowing mechanisms and sculptures in Recent gastropods

49 Arua, Ingela & Hoque, Mominul: Predatory gastropod boreholes in an Eocene molluscan assemblage from Nigeria

61 Simms, Michael J.: Columnal ontogeny in articulate crinoids and its implications for their phylogeny

69 Pandolfi, John M. & Burke, Collette D.: Environmental distribution of colony growth form in the favositid *Pleurodictyon americanum*

85 Wood, Rachel, Reitner, Joachim & West, Ronald R.: Systematics and phylogenetic implications of the haplosclerid stromatoporoid *Newellia mira* nov. gen.

95 Checa, Antonio & Westermann, Gerd E. G.: Segmental growth in planululate ammonites: inferences on costal function

101 McAllister, John E. & Brand, Uwe: Primary and diagenetic microstructures in trilobites

113 Zhang Yun: Multicellular thallophytes with differentiated tissues from Late Proterozoic phosphate rocks of South China

133 Alexander, Richard R.: Influence of valve geometry, ornamentation, and microstructure on fractures in Late Ordovician brachiopods

149 Kase, T.: Autecology of *Labrocuspis*, a Middle Devonian omphalotrochid gastropod

159 Olempska, Ewa: Gradual evolutionary transformations of ontogeny in an Ordovician ostracod lineage

169 Dzik, J. & Krumbiegel, G.: The oldest 'onychophoran' *Xenusia*: a link connecting phyla?

183 Pandolfi, John M. & Burke, Collette D.: Shape analysis of two sympatric coral species: Implications for taxonomy and evolution

195 Kaźmierczak, Józef: Halysitid tabulates: sponges in corals' clothing

207 Davies, David J., Powell, Eric N. & Stanton, Robert J., Jr.: Relative rates of shell dissolution and net sediment accumulation – a commentary: can shell beds form by the gradual accumulation of biogenic debris on the sea floor?

213 Rohr, David M. & Boucot, A. J.: Xenomorphism, bioimmuration, and biologic substrates: an example from the Cretaceous of Brazil

217 Bodenbender, Brian E., Wilson, Mark A. & Palmer, Timothy J.: Paleoecology of *Sphenothallus* on an Upper Ordovician hardground

229 Seilacher, Adolf: Vendozoa: Organismic construction in the Proterozoic biosphere

241 Baker, Peter G.: Location and interpretation of ontogenetic relics in the shell of adult brachiopods

247 Brunton, C., Howard C. & Alvarez, Fernando: The relationship between major lamellae and epithelial regressions in some articulate brachiopods

251 Erwin, Douglas H.: Molecular clocks, molecular phylogenies and the origin of phyla

259 Bergström, Jan: The origin of animal phyla and the new phylum Procoelomata

271 Martin, Jose, M., Braga, Juan C. & Rivas, Pascual: Coral successions in Upper Tortonian reefs in SE Spain

287 Gibson, Michael A. & Broadhead, Thomas W.: Species-specific growth responses of favositid corals to soft-bottom substrates

301 Walossek, Dieter & Müller, Klaus J.: A second type A-nauplius from the Upper Cambrian 'Örsten' of Sweden

307 Donovan, Stephen K.: The improbability of a muscular crinoid column

317 Baumiller, Tomasz K. & Plotnick, Roy E.: Rotational stability in stalked crinoids and the function of wing plates in *Pterocrinus depressus*

327 Kotake, Nobuhiro: Paleoecology of the *Zoophycos* producers

345 Stanistreet, Ian G.: Trace fossil associations related to facies of an upper Ordovician low wave energy shoreface and shelf, Oslo-Asker district, Norway

359 Feist, Raimund & Clarkson, Euan N. K.: Environmentally controlled phyletic evolution, blindness and extinction in Late Devonian trypidocoryphine trilobites

375 Vidal, Gonzalo: Are late Proterozoic carbonaceous megafossils metaphytic algae or bacteria?

381 Norris, Richard D.: Cnidarian taphonomy and affinities of the Ediacara biota

395 Le Menn, Jean: Contrôle de la sécrétion stéréomique dans les stolons d'un Crinoïde nouveau du Dévonien inférieur d'Algérie

405 Gourvennec, Rémy: Radial microornament in spiriferid brachiopods and paleogeographical implications

413 Borgen, Ulf J.: Cosmine resorption structures on three osteolepid jaws and their biological significance

425 Poncet, Jacques: New data about the taxonomic position of *Saccaminoopsis*

431 Ruiz, Gregory M. & Lindberg, David R.: A fossil record for trematodes: extent and potential uses

439 Long, John A. & Burrett, Clive F.: Tubular phosphatic micropaleontology from the Early Ordovician of China

447 Gray, Jane & Boucot, A. J.: Is *Moyeria* a euglenoid?

*Lethaia Reviews*

30 Bergström, Jan: Evolution – but not macro

300 Werdelin, Lars: A classic compilation

316 Werdelin, Lars: The Whales of August

412 Yochelson, Ellis L.: Catalogue of the 'Silurian'

*Lethaia Seminar*

59 Martinez, J. Ignacio: Stratigraphic mensuration, order and homotaxy

148 Ręzki, Grzegorz: Articulate brachiopods and Late Paleozoic dysaerobic biofacies

343 Rosenberg, G. D., Hughes, W. W. & Tkachuck, R. D.: Shell form and metabolic gradients in the mantle of *Mytilus edulis*

<i>Lethaia Forum</i>		<i>Lethaia Announcements</i>
112	'Shallow Tethys' Newsletter	94 ICZN Opinions
194	Löfgren, Anita: A new <i>Lethaia</i> Editor	245 Fossils and Strata 21 & 22
227	Oliver, William A., Jr.: International Palaeontological Association: Annual Report of the Secretary-General for 1988	258 Fossils and Strata 23
228	IPA sponsored meetings: 1984-89 and projected	270 Fossils and Strata 24
357	Oliver, William A., Jr.: International Palaeontological Association: General Assembly, Washington, July 17, 1989	342 ICZN News
379	International Palaeontological Association: Report on New Book Publications, 1989	380 ICZN News
393	Krassilov, V. A.: Phylogenetic aspects of Palaeontology - XXV Session of the USSR Palaeontological Society	430 Fifth Symposium on Mesozoic terrestrial ecosystems and biota

## Index of Contributors

Alexander, Richard R. 133  
 Alvarez, Fernando 247  
 Arua, Ingela 49  
 Baker, Peter G. 241  
 Baumiller, Tomasz K. 317  
 Bergström, Jan 30, 259  
 Bodenbender, Brian E. 217  
 Borgen, Ulf J. 413  
 Boucot, A. J. 213, 447  
 Braga, Juan C. 271  
 Brand, Uwe 101  
 Broadhead, Thomas W. 287  
 Brunton, C. Howard C. 247  
 Burke, Collette, D. 69, 183  
 Burrett, Clive F. 439  
 Checa, Antonio 95  
 Clarkson, Euan N. K. 359  
 Davies, David J. 207  
 Donovan, Stephen K. 307  
 Dzik, J. 169  
 Erwin, Douglas H. 251  
 Feist, Raimund 359  
 Gibson, Michael A. 287  
 Gourvennec, Rémy 405  
 Gray, Jane 447  
 Hoque, Mominul 49  
 Hughes, W. W. 343  
 Kase, T. 149  
 Kaźmierczak, Józef 195  
 Kotake, Nobuhiro 327  
 Krassilov, V. A. 393  
 Krumbiegel, G. 169  
 Le Menn, Jean 395  
 Lindberg, David R. 431  
 Lipps, Jere H. 1  
 Löfgren, Anita 194  
 Long, John A. 439  
 Martin, Jose M. 271  
 Martinez, J. Ignacio 59  
 McAllister, John E. 101  
 Müller, Klaus J. 301  
 Norris, Richard D. 381  
 Olempska, Ewa 159  
 Oliver, William A., Jr., 227, 357  
 Palmer, Timothy J. 217  
 Pandolfi, John M. 69, 183  
 Plotnick, Roy E. 317  
 Poncet, Jacques 425  
 Powell, Eric N. 207  
 Racki, Grzegorz 148  
 Reitner, Joachim 85  
 Rivas, Pascual 271  
 Rohr, David M. 213  
 Rosenberg, G. D. 343  
 Ruiz, Gregory, M. 431  
 Savazzi, Enrico 31  
 Seilacher, Adolf 229  
 Severin, Kenneth P. 1  
 Simms, Michael J. 61  
 Stanistreet, Ian G. 345  
 Stanton, Robert, J., Jr. 207  
 Tkachuck, R. D. 343  
 Vidal, Gonzalo 375  
 Walossek, Dieter 301  
 Werdelin, Lars 300, 316  
 West, Ronald R. 85  
 Westermann, Gerd E. G. 95  
 Wilson, Mark A. 217  
 Wood, Rachel 85  
 Xi-guang, Zhang 13  
 Yochelson, Ellis L. 412  
 Zhang Yun 113

